

RECOGNITION OF AREAS OF POTENTIAL SLOPE FAILURE (25)

I Main Topics

A Motivation

B Signs of slope instability

<http://anaheim-landslide.com/>

II Motivation

A Most landslides (or potential slides) can be recognized or predicted if the proper investigations are performed in advance.

B Except for small slides, slides typically cost far less to prevent than to fix (An ounce of prevention is worth a pond of cure...).

C Massive slides may cost many times the cost of the desired facility; they should be avoided.

III Signs of past slope instability (focus on topography and hydrology)

A Review of maps (Figs. 4.5, 3.9 in SR 176)

B Review of aerial photos & remote sensing imagery in SR 176

1 Hummocky topography

http://www.kgs.ukans.edu/Publications/pic13/pic13_2.html

a Oblique aerial photos: Figs. 2.19, 2.22, 2.23, 2.28, 2.33

b Stereophotos: Figs. 3.14, 3.26, 3.31

2 Arcuate fractures and old scarps or scars

<http://anaheim-landslide.com/features.htm>

a Oblique aerial photos: Figs. 2.19, 3.40,

b Stereophotos: Figs. 3.5, 3.7, 3.14, 3.19, 3.20, 3.24

3 Areas of anomalous vegetation (seasonal photos useful)

a Oblique aerial photos: Plate 3.3

a Stereophotos: Plates 3.1, 3.2

4 Areas of seepage: Vertical infrared imagery: Fig. 3.35

5 Sand flows and talus (Figs. 3.25, 3.30)

C Features to examine in field reconnaissance

1 Ground cracks (Fig 4.2 in SR 176)

2 Closed hillside depressions

3 Phreatophytes and seeps

4 Patched or hummocky roads

5 Tilted walls, trees, and fences

Characteristics of Real Landslides

